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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,507	02/05/2002	Satoshi Seo	07977-300001	7036

26171 7590 11/03/2004

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EXAMINER	
ROSE, KIESHA L	

ART UNIT	PAPER NUMBER
2822	

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/072,507	SEO ET AL.	
	Examiner	Art Unit	
	Kiesha L. Rose	2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-13 and 26-43 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 8/2/04.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the amendment filed 2 August 2004.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-8 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shi et al. (U.S. Patent 5,817,431).

Shi discloses an organic electroluminescent device for an electronic device (Fig. 1) that contains an anode (14), a cathode (26), an organic compound film containing a hole transporting material (18) and an electron transporting material (22), wherein the organic compound has a structure comprising in a direction from the anode to the cathode, a hole injecting region (16) contacting the anode, hole transporting region (18) comprising the hole transporting material, a first concentration change region, a mixture region (20) containing the hole transporting material and the electron transporting material and a light emitting region for light emission from a triplet excitation state is formed in the mixture region and a blocking material (Alq3) added in the mixture region (Column 4, lines 24-26), a second concentration change region, an electron transporting

region (22) containing the electron transporting material and an electron injecting region (24) contacting the cathode, where the light emitting device can be an active matrix liquid crystal device or a passive matrix device. (Column 1, lines 41-45) In regards to the electron transporting material increasing gradually until a certain ratio and a x : y ratio of the hole transporting material and the electron transporting material equaling a certain positive constants, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the electron transporting material to increase gradually to a certain ratio and to have a certain x :y ratio for the hole transporting and electron transporting materials to be a certain positive constant, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F. 2d 272, 205 USPQ 215 (1980). In regards to the electron material "increasing gradually", a *"product by process"* claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972): *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); In re Fessmann, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a *"product by, all of"* claim, and not the patentability of the process, and that an old or obvious product, whether claimed in *"product by process"* claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear. Even though product –by [-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not

depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted)."

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shi et al.

Shi et al. discloses all the limitations except for the mass percentage of the hole transporting material and the mixture region having a certain thickness. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a certain mass percentage of the hole transporting material and the mixture region having a certain thickness, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233 (1955).

Claims 26-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shi et al. in view of Shibamoto et al. (U.S. Patent 6,346,973).

Shi discloses an organic electroluminescent device for an electronic device (Fig. 1) that contains an anode (14), a cathode (26), an organic compound film containing a hole transporting material (18) and an electron transporting material (22), wherein the organic compound has a structure comprising in a direction from the anode to the cathode, a hole injecting region (16) contacting the anode, hole transporting region (18) comprising the hole transporting material, a first concentration change region, a mixture region (20) containing the hole transporting material and the electron transporting

material and a light emitting region for light emission from a triplet excitation state is formed in the mixture region and a blocking material (Alq3) added in the mixture region (Column 4, lines 24-26), a second concentration change region, an electron transporting region (22) containing the electron transporting material and an electron injecting region(24) contacting the cathode, where the light emitting device can be an active matrix liquid crystal device or a passive matrix device. (Column 1, lines 41-45) In regards to the electron transporting material increasing gradually until a certain ratio and a x : y ratio of the hole transporting material and the electron transporting material to be a certain positive constant, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the electron transporting material to increase gradually to a certain ratio and to have a certain x : y ratio for the hole transporting and electron transporting materials to a certain positive constant, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F. 2d 272, 205 USPQ 215 (1980). In regards to the electron transporting material "increasing gradually", a *"product by process"* claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972): *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); In re Fessmann, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a *"product by, all of"* claim, and not the patentability of the process, and that an old or obvious product, whether claimed in *"product by process"* claims or not. Note that

Applicant has the burden of proof in such cases, as the above caselaw makes clear. Even though product –by [-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted)."

Shi discloses all the limitations except for a cellular phone. Whereas Shibamoto discloses a display device with a cellular phone having a main body, an audio output/input portion, light emitting device, switches and an antenna. A cellular phone is formed with the light emitting device to function as an electronic device with light emitting functions. (Column 1, lines 7-11) Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Shi by incorporating a cellular phone to act as an electronic device with light emitting functions as taught by Shibamoto.

Response to Arguments

Applicant's arguments with respect to claims 1-43 have been considered but are moot in view of the new ground(s) of rejection. In regards to the Shi reference not disclosing the ratio between the hole transporting material and electron transporting material it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F. 2d 272, 205 USPQ 215 (1980).

And determining a value is obvious to one or ordinary skill. Therefore the rejection stands.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kiesha L. Rose whose telephone number is 571-272-1844. The examiner can normally be reached on M-F 8:30-6:00 off 2nd Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KLR

AMIR ZARABIAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800